

A List of Tennessee Ferns

W. A. ANDERSON, JR.

(Continued from Vol. 20, p. 150.)

DENNSTAEDTIA PUNCTILOBULA (Michx.) Moore

Syn. *Dicksonia punctilobula* (Michx.) Gray.

Cold Springs Knob, Greene County, June 23, 1928, Anderson and Jennison, 1137.

Near Top of Gregory's Bald, Cades Cove, Blount County, July 6, 1928, Anderson, 1378.

Foot of Gregory's Bald, Cades Cove, Blount County, June 14, 1928, Anderson, 969.

Roaring Fork, Gatlinburg, Sevier County, June 10, 1928, Anderson, 947.

Mt. Le Conte, Gatlinburg, Sevier County, Oct. 2, 1927, Anderson, 610.

Elkmont, Sevier County, Aug., 1921, A. R. Bechtel.

White Cliff Springs, Monroe County, June 29, 1890, Scribner.

Frog Mountain, summit, Polk County, ———, 1878, Gattinger.

Mts. of East Tennessee, head of Piney River, Rhea County, ———, 1887, Mrs. Bennett (in Gattinger's collection).

ATHYRIUM ANGUSTIFOLIUM (Michx.) Milde

Syn. *Asplenium angustifolium* Michx.

Roaring Fork, Gatlinburg, Sevier County, June 10, 1928, Anderson, 949.

Lemon's Gap, Coker County (4000 ft.), July 15, 1892, Ruth, 557.

Tullahoma Cataract, Coffee County, ———, 1867, Gattinger.

Near Post Oak Springs, Roane County, Maxon, Fern Bulletin, 1901.

Eagleville, Rutherford County, ———, 1893, Bain.

ATHYRIUM ACROSTICHOIDES (Sw.) Diels

Syn. *Asplenium acrostichoides* Sw.

I collected this fern at two places along the Tennessee-North Carolina state line ridge. These places were several miles apart, but both were in deciduous forest at an altitude of about 5000 ft.

Near gap on state line ridge, Gregory's Bald, Cades Cove, Blount County, July 6, 1929, Anderson, 1373.

Indian Gap Trail near state line, Gatlinburg, Sevier County, July 21, 1929, Anderson and Jennison, 1420.

Walden's Ridge, ———, Mrs. Bennett (in Gattinger's collection).

Tunnel Hill, Hamilton County, ———, 1884, Gattinger.

Missionary Ridge, Chattanooga, ———, J. H. Ferriss.

ATHYRIUM FILIX-FEMINA (L.) Roth

Syn. *Asplenium Filix-femina* (L.) Bernh.

When "The Ferns of Tennessee" was published in 1929, the specimens at hand seemed to fit *Athyrium angustum* (Willd.) Presl, according to Butters' revision, (1917), though Butters states that this species does not occur so far south. Much of the material I examined was old and the sori were not well preserved, so I based my determinations for the most part on shape of fronds and length of stipes. A number of specimens were collected during the summer of 1929 for the purpose of settling the question of the identity of the lady ferns in that region. All of these have been critically examined with the help of Mr. Weatherby, and all proved to be the form separated by Butters as *Athyrium asplenioides* (Michx.) Desv. One set of specimens collected in the balsam woods at the top of Clingman's Dome is a possible exception. The specimens of lady fern from Tennessee show a great diversity of form and habit, and it is only upon spore and indusium characters that they may be successfully separated as *A. asplenioides*.

Near Camp Jerry, Cold Spring Knob, Greene County, Tenn.-N. C. line, June 23, 1928, Anderson and Jennison, 1086.

In balsam wood near top of Clingman's Dome, Sevier County, Tenn.-N. C. line (6600 ft.), July 21, 1929, Anderson and Jennison, 1415.

Mt. Le Conte, Gatlinburg, Sevier County, Oct. 2, 1927, Anderson, 602.

- Sugarland Mountain, Sevier County, Aug. 21, 1921, A. R. Bechtel.
- Pinnacle Mountain, near Greenbrier, Sevier County, Oct. 9, 1927, Anderson, 689.
- Near Gap on State Line Ridge, (5000 ft.) Gregory's Bald, Cades Cove, Blount County, July 6, 1929, Anderson, 1374.
- Near end of Forked Ridge, Gregory's Bald, Cades Cove, Blount County (2000 ft.), July 6, 1929, Anderson, 1357.
- Frog Mountain, Polk County, ———, 1878, Gattinger.
- Creek west of Daysville, Cumberland County, July 14, 1929, Anderson, 1384.
- Sewanee, Franklin County, Sept., 1878, Gattinger.
- Tullahoma, Coffee County, June, R. Brown (in Gattinger's collection).
- Richland Station, Turner County, Aug. 27, 1883, Gattinger.
- Hollow Rock Junction, (now Bruceton), Carroll County, Aug. 27, 1922, Svenson, 398.
- Henderson, Chester County, 1892, Bain.
- Memphis, May 12, 1920, E. J. Palmer, 17,461.

PHYLLITIS SCOLOPENDRIUM (L.) Newm.

Syn. *Scolopendrium vulgare* Sm.

The hart's tongue fern has been reported from two stations in Tennessee, Post Oak Springs, and near South Pittsburg. The first was discovered by Gattinger in 1849, but the fern has since disappeared (Maxon, Fernwort Papers, 1900). The South Pittsburg station is a famous one and has been much visited by collectors (Maxon, 1900). Graves (1930) reports that only six plants were there in 1929, so it seems likely that the fern will disappear from this place also. There is no specimen from Tennessee in Gattinger's collection, and I had no opportunity to make a trip to South Pittsburg, so it was only after I came to the Gray Herbarium that I received definite information as to the occurrence of this rare fern in Tennessee. The one specimen I have seen is from

South Pittsburg, Marion County, A. A. Eaton collection. Collected by E. L. Lee, letter dated Sept. 18, 1906.

CAMPTOSORUS RHIZOPHYLLUS (L.) Link

Roaring Fork, Gatlinburg, Sevier County, June 10, 1928, Anderson, 952.

Knoxville, Sept. 20, 1897, Ruth, 559.

Near South Pittsburg, Marion County, J. H. Ferriss, Fern Bulletin, 1899.

Near Post Oak Springs, Roane County, W. R. Maxon, Fern Bulletin, 1901.

Carter County, Aug., 1891, E. E. Gayle.

Rock Island, Van Buren County, Sept., 1871, A. R. Crandall.

Nashville, Sept., 1888, Gattinger.

Nolensville Pike, Nashville, July 8, 1922, Svenson, 68.

ASPLENIUM PINNATIFIDUM Nutt.

We searched eagerly for this rare spleenwort, but were never so fortunate as to find it. All the specimens I have seen are from the Cumberlands, and from Lookout Mountain.

Lula Falls, Lookout Mountain, Hamilton County, June 4, 1911, J. R. Churchill.

Fentress County, Nov. 21, 1882, C. Lown.

Helenwood, Scott County, Nov., 1884, C. Lown.

Cavern near South Pittsburg, Marion County, J. H. Ferriss, Fern Bulletin, 1899.

ASPLENIUM TRICHOMANES L.

Roaring Fork, Gatlinburg, Sevier County, June 10, 1928, Anderson, 958.

Cades Cove, Blount County, June 15, 1928, Anderson, 1020.

Falls, Bald Creek, Cherokee National Forest, Monroe County, Oct. 21, 1928, Anderson, 1035.

Hiwassee River, Monroe County, July 3, 1892, Scribner.

Wolf Creek, Cocke County, May 9, 1893, Kearney.

Piney Falls, Rhea County, ———, 1887, Mrs. Bennett (in Gattinger's collection).

Parksville, Polk County, Aug., 1878, Gattinger.

Asplenium Trichomanes L. forma *incisum* Moore is reported from "East Tennessee" by J. H. Ferriss, Fern Bulletin. VI: 54, 1899.

ASPLENIUM RESILIENS Kze.

Syn. *A. parvulum* Mart. & Gal.

Bluffs: near Knoxville, Oct. 11, 1927, Anderson, 706.

Johnson County, July 8, 1880, J. D. Smith.

Post Oak Springs, Roane County, Aug. 6, 1900, Pollard and Maxon, 414.

Cleveland, Bradley County, July 4, 1880, Gattinger.

Wolf Creek, Cocke County, Aug., 1881, Gattinger.

Fentress County, Nov. 23, 1882, C. Lown.

Rocks near Nashville, Sept., ———, Gattinger.

Along Duck River, Humphreys County, Sept. 1, 1928, Anderson, 1055.

ASPLENIUM PLATYNEURON (L.) Oakes

Syn. *A. ebeneum* Ait.

The genus *Asplenium* is well represented in Tennessee and this one is the most conspicuous species. In numerical abundance it ranks with the Christmas fern and the brittle fern. It is not particular in its soil requirements and grows equally well in the valley and in the mountains.

Tipton's Sugar Cove, Cades Cove, Blount County, June 14, 1928, Anderson, 985.

Roaring Fork, Gatlinburg, Sevier County, June 10, 1928, Anderson, 939.

Banks of French Broad River, Wolf Creek, Cocke County, Oct. 7, 1928, Anderson and Jennison, 1117.

Bluffs near Knoxville, Oct. 11, 1927, Anderson, 705.

Bird Preserve, Knoxville, Mar. 25, 1926, Jennison.

White Cliff Springs, Monroe County, June, 1890, Scribner.

Lee's Spring, Grainger County, May 17, 1927, R. G. Henderson.

On sandstone by creek, Daysville, Cumberland County, July 14, 1929, Anderson, Jennison and Hesler, 1386.

Kingston Springs, Cheatham County, June 11, 1922, Svenson, 23.

Nashville, ———, 1878, Gattinger.

Along Duck River, Humphreys County, Sept. 1, 1928, Anderson, 1056.

Jackson, Madison County, ———, 1893, Bain.

Edgefield, Bedford County, June 8, 1883, Gattinger.

× *ASPLENIUM EBENOIDES* R. R. Scott

With *Asplenium platyneuron* and *Camptosorus rhizophyllus* both plentiful in the state, it was inevitable that the hybrid *Asplenium ebenoides* should be found somewhere, so we were always watching for it but were never so fortunate as to encounter it. The honor of adding this interesting plant to the state list goes to Mr. E. W. Graves, who reports it from Beersheba Springs, August, 1929. I have not seen his specimen. (See Graves, 1930.)

ASPLENIUM BRADLEYI D. C. Eaton

In the original description of this fern Eaton (1873) cites the locality as "Top of Walden's Ridge, Cumberland Mts., near Coal Creek, East Tennessee." There is a specimen in the Gray Herbarium labeled "Mts. of E. Tenn. F. H. Bradley, 1873" which is undoubtedly a part of the type collection.

Asplenium Bradleyi is a rare fern. Its range extends through the southern Appalachians and north to New York, but it is to be found only by knowing exactly where to look. My only specimen is from the sandstone cliffs of Signal Mountain, above Chattanooga. Signal Mountain is the end of Walden's Ridge, which is the first ridge of the Cumberlands on the east. *Asplenium Bradleyi* is one of those ferns which grow in the Cumberland Mountains in Tennessee but not in the Alleghany range.

The following note from *Nature*, 61: 458, 1900, doubtless accounts for the report that *Asplenium viride* had been found in Tennessee.

"Linnean Society, Feb. 15, Mr. C. B. Clarke, F. R. S., Vice President, in the chair.

"Mr. R. Morton Middleton exhibited a series of specimens of *Asplenium Bradleyi* Eaton, one of the rarer

rock ferns from Tennessee, to show its extreme variability. The simplest fronds exhibited were found in a damp, cold, perpendicular rift, which no sunshine could enter, at an elevation of about 1700 feet; these fronds had the simple pinnate structure, with green rachis, and rounded, toothed pinnae of *A. viride* Hudson, but were more coriaceous than in that species. Dr. Gattinger, author of the "Tennessee Flora," was satisfied that the plant was *A. viride*; and General Kirby Smith, who had ample opportunity for studying *A. Bradleyi* on the eastern slopes of the Cumberland Plateau remarked that *A. viride* and *A. Bradleyi* were so much alike that they might be varieties. The other plants exhibited, however, showed a gradual tendency to become more and more compound, culminating in a luxuriant specimen with pinnatifid fronds 10 inches long, the green rachis becoming purple and shining in all plants exposed to the sun's rays."

Lookout Mountain, Hamilton County, Apr. 24, 1906, T. O. Fuller.

Signal Mountain, Hamilton County, June 22, 1929, Anderson, Jennison and Hesler, 1332.

South Pittsburg, Marion County, June 12, 1892, R. M. Middleton, Jr.

Tennessee and Virginia line, ———, 1875, W. Faxon.

Helenwood, Scott County, Nov., 1884, C. Lown.

ASPLENIUM MONTANUM Willd.

Asplenium montanum is of frequent occurrence, though its small size and its habit of growing only in crevices of sandstone cliffs makes it rather hard to find. The finest specimens I found were near the top of the Chimneys in the Smoky Mountains. I saw it growing also underneath the ledges where the guns are placed on Lookout Mountain, but did not collect any from that locality as it is a public park.

The original description of *Asplenium montanum* gives "Habitat in altis montibus Carolinae." Sp. Pl. 5: 342.

Sinks of Little River, Elkmont, Sevier County, June 30, 1929, Anderson, 1361.

Side of Chimneys, (4500 ft.), Gatlinburg, Sevier County, Apr. 21, 1929, Anderson and Jennison, 1179.

Cliffs, trail above Alum Cave, Mt. Le Conte, Gatlinburg, Sevier County, (5000 ft.), May 18, 1929, Anderson, 1251.

Top of House Mountain, Luttrell, Union County, Apr. 27, 1929, Anderson, 1186.

White Cliff Springs, Monroe County, June 29, 1890, Scribner.

Lookout Mountain, Hamilton County, ———, 1889, Gattinger.

Sandstone cliff, 2 miles west of Daysville, Cumberland County, July 14, 1929, Anderson, Jennison and Hesler, 1384.

Helenwood, Scott County, Nov., 1884, C. Lown.

Walden's Ridge, May 18, 1906, Fuller.

ASPLENIUM CRYPTOLEPIS Fernald

Syn. *A. Ruta-muraria* of authors in pt.

Since *Asplenium cryptolepis* is a true calciphile it is found only in the limestone regions of the state, and is not found in either of the mountain ranges.

Tennessee-Virginia Line, ———, 1875, W. Faxon.

Post Oak Springs, Roane County, Aug. 6, 1900, Pollard and Maxon, 412.

Holston River below Concord, Knox County, July, 1872, W. Faxon.

Rocks along Tennessee River, Knox County, May 30, 1897, Ruth, 556.

Carter County, July, 1891, E. E. Gayle.

Nashville, Sept., 1888, Gattinger.

Along Duck River, Humphreys County, Sept. 1, 1928, Anderson, 1057.

WOODWARDIA AREOLATA (L.) Moore

Chilhowee Flats, (3000 ft.), Blount County, Aug. 29, 1891, Beardslee and Kofoid.

White Cliff Springs, Monroe County, July, 1890, Scribner.

Hollow Rock Junction, (now Bruceston), Carroll County, Aug. 27, 1922, Svenson, 418.

Hollow Rock, Carroll County, Gattinger.

Forked Deer Bottoms, Jackson, Madison County, Sept., 1892, Bain.

PELLAEA ATROPURPUREA (L.) Link

The purple cliff brake is abundant on limestone cliffs throughout East Tennessee.

Bluffs near Knoxville, Oct. 11, 1927, Anderson, 701.

Holston River, July, 1872, W. Faxon.

South Pittsburg, Marion County, Aug. 3, 1900, Pollard and Maxon.

Johnston County, July 8, 1880, J. D. Smith.

Post Oak Springs, Roane County, Aug. 6, 1900, Pollard and Maxon, 417.

Carter County, Aug., 1891, E. E. Gayle.

Snail Shell Cave, Rutherford County, July, 1890, Bain.

Lavergne, Rutherford County, Aug. 12, 1922, Svenson, 211.

Along Duck River, Humphreys County, Sept. 1, 1928, Anderson, 1054.

Cedar Glades near Eagleville, Rutherford County, July, 1892, Bain.

CHEILANTHES ALABAMENSIS (Buckley) Kunze

Cheilanthes alabamensis grows almost within the city limits of Knoxville but I never happened to find it. I have seen a number of specimens which other people have collected there, but the only place I found it was about 300 miles west along the Duck River.

Holston River near Knoxville, July, 1872, W. Faxon.

Tennessee River near Knoxville, July 11, 1893, Kearney.

Near South Pittsburg, Marion County, J. H. Ferriss, Fern Bulletin, 1899.

Mill Creek, Nashville, Sept., 1877, Gattinger.

Clarksville, Montgomery County, May 25, 1920, Palmer 17,636.

Along Duck River, Humphreys County, Sept. 1, 1928, Anderson, 1053.

CHEILANTHES LANOSA (Michx.) Watt

Along cliff by railroad, Kinzel Springs, Blount County, May 8, 1929, Anderson, 1246.

- Chilhowee Mountain, Blount County, July, 1881, Gattinger.
 Dandridge, Jefferson County, July, 1872, W. Faxon.
 Tellico Plains, Monroe County, Aug., 1882, A. G. Wetherby.
 Near Knoxville, July 17, 1904, Ruth, 567.
 Near Lookout Mountain, Hamilton County, May 6, 1906, Fuller.
 Carter County, July, 1891, E. E. Gayle.
 Cataract at Tullahoma, Coffee County, June, 1867, Gattinger.
 Mill Creek Bluff, Nashville, Sept., 1878, Gattinger.
 Erin, Houston County, May 24, 1920, Palmer, 17,609.
 Along Duck River, Humphreys County, Sept. 1, 1928, Anderson, 1052.

CHEILANTHES TOMENTOSA Link

- Cliffs on French Broad River, May, 1893, Kearney.
 Ocoee Valley, Aug., 1879, Gattinger.
 Base of cliff by railroad, Kinzel Springs, Blount County, May 8, 1929, Anderson, 1247.
 Gorge of Tellico River, Monroe County, Aug., 1882, A. G. Wetherby.
 Lookout Mountain, Hamilton County, Apr. 25, 1906, Fuller.
 Parkville, Polk County, ———, Gattinger.
 South Pittsburg, Marion County, June, 1892, Middleton.

(To be continued)